



# NATIONAL ASSOCIATION OF THE DEAF

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October 28, 1996

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Mr. William F. Caton  
Office of the Secretary  
Federal Communications Commission  
1919 M Street, N.W., Room 222  
Washington, D.C. 20554

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FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF SECRETARY

Re: In the Matter of Implementation of Section 255  
of the Telecommunications Act of 1996  
WT Docket No. 96-198

Dear Mr. Caton:

Enclosed please find one original plus four copies of Comments of the National Association of the Deaf in response to the Notice of Inquiry in the above captioned proceeding.

Please refer all correspondence regarding these comments to my attention. Thank you.

Sincerely,

Karen Peltz Strauss  
Legal Counsel for Telecommunications Policy  
National Association of the Deaf

Enclosures

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**ORIGINAL**

Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C.

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Telecommunications Act of 1996	)	
	)	WT Docket No. 96-198
Access to Telecommunications Services,	)	
Telecommunications Equipment, and	)	
Customer Premises Equipment	)	
By Persons with Disabilities	)	

**COMMENTS OF  
THE NATIONAL ASSOCIATION OF THE DEAF**

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## SUMMARY

In its Notice of Inquiry, the Federal Communications Commission (Commission) takes its first major step toward implementing Section 255 of the Telecommunications Act of 1996. Section 255 requires that all telecommunications products and services be accessible to individuals with disabilities, if readily achievable. Because Section 255 sets forth new expectations of access for the telecommunications industry, it is critical for the Commission to clearly define what will be expected under these mandates. Congress understood this, and its actions, right through its Conference Report, unequivocally demonstrated its intent for the Commission to promulgate regulations setting forth specific accessibility standards. Such standards are not only required for the effective enforcement of Section 255, but are critical to providing the guidance needed for telecommunications companies to meet accessibility needs in the initial design and development stages of their products and services. Without such guidance, companies will be free to continue their practices of ignoring access needs at the outset and will be able to argue later on that retrofits to their products and services are not readily achievable.

The Telecommunications Access Advisory Committee (TAAC) of the Architectural and Transportation Compliance Board is currently developing guidelines to define both the processes that telecommunications manufacturers must follow in assessing and meeting disability needs and performance standards to meet the needs of specific disabilities. The NAD urges the Commission to follow the approach being employed by TAAC in developing access rules that will apply to service providers. Process guidelines should require companies to consider access needs at all phases of the design,

development, and marketing of a service. Throughout each of these stages, companies should be required to consult with members of the disability community. Additionally, companies should be under a continuing obligation to ensure compliance with Section 255 by their employees and contractors, and should be required to provide customer and technical support in accessible formats. Finally, companies should be required to fully document their efforts to achieve access. Such documentation will not only help consumers to determine whether a company has, in good faith, carried out its disability assessment; it will also have the beneficial effects of achieving increased compliance and reducing the number of complaints against that company.

Although telecommunications technology is changing at a rapid pace, the Commission should not stop its rulemaking at the creation of process guidelines. Where known solutions to inaccessible products and services exist, these solutions should be put into place, with the understanding that the Commission will periodically review those solutions to ensure they are current with new technologies. The NAD's comments offer an extensive list of telecommunications products and services which remain inaccessible to individuals who are deaf and hard of hearing, demonstrating the overwhelming need for such regulations.

In determining the proper scope of the readily achievable standard, the Commission should turn for guidance to the Department of Justice's analysis of that standard as applied to Title III of the ADA. Among other things, readily achievable determinations must be made on a case by case basis, without any categorical exemptions for small businesses. Moreover, given the rapid pace of technological changes, what is not

readily achievable today may become readily achievable at some time in the near future. Accordingly, companies should be under a continuing obligation to incorporate access solutions into their product and service designs. Additionally, with respect to new products and services, compliance with Section 255 should focus on whether it would have been readily achievable to have incorporated access during the design stages, not whether it is readily achievable to retrofit those products or services.

Historically, deaf and hard of hearing individuals have been denied basic access to significant segments of our nation's telecommunications infrastructure. Section 255 promises to reverse this trend, and finally provide the access to services and equipment that is vital to achieving full participation in our society. We call upon the Commission to meet its obligation to promulgate rules and regulations to realize this goal.

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**COMMENTS OF**  
**THE NATIONAL ASSOCIATION OF THE DEAF**

**I. Introduction**

The National Association of the Deaf (NAD) submits these comments in response to the Federal Communication Commission's (FCC's or Commission's) Notice of Inquiry (NOI) regarding access to telecommunications services, telecommunications equipment, and customer premises equipment (CPE) by persons with disabilities, WT Docket No. 96-198 (released September 19, 1996). The NAD understands that this is the first step in the Commission's actions to enforce Section 255 of the Telecommunications Act of 1996.

The NAD is the nation's largest organization safeguarding the accessibility and civil rights of 28 million deaf and hard of hearing Americans in education, employment, health care, and telecommunications. The NAD is a private, non-profit federation of 51 state association affiliates including the District of Columbia, organizational affiliates, and direct members. The NAD seeks



to assure a comprehensive, coordinated system of services that is accessible to Americans who are deaf and hard of hearing, enabling them to achieve their maximum potential through increased independence, productivity, and integration.

Historically, deaf and hard of hearing people have been unable to access a significant segment of our nation's telecommunications products and services; even today, the vast majority of these products and services remain dependent on auditory and verbal input and output. For the first time in our nation's history, the Telecommunications Act of 1996 requires manufacturers of telecommunications products and providers of telecommunications services to ensure that their products and services are designed and manufactured to be accessible to and usable by individuals with hearing disabilities, if doing so would be readily achievable. In this law, Congress recognized the critical need to ensure that individuals with disabilities are considered in the design and planning stages of our nation's telecommunications policy and development. The Commission's implementation of this Act will directly and profoundly impact the ability of new technologies and services to reach Americans with disabilities. These new technologies promise to facilitate and improve the way in which deaf and hard of hearing individuals can utilize and enjoy telecommunications in their home, workplace, school, and in the community at large, and offer new promises to providing vital links to the mainstream of our society.

## **II. The FCC has both the Authority and the Mandate to Promulgate Access Regulations**

The Commission raises as a threshold question in this proceeding the appropriate Commission approach to the enforcement of Section 255 of the Telecommunications Act of 1996. NOI ¶¶ 7, 29-34. Specifically, the Commission seeks comment on whether it is best to

promulgate rules, issue policy guidelines, or simply rely on complaints as a means of enforcing the accessibility provisions on a case by case basis.

We submit that the Commission should promulgate regulations to implement the accessibility provisions of the Telecommunications Act, because first, it has a legal responsibility to do so, second, as a practical matter, reliance on policy statements and/or consumer complaints will not achieve Congress' goal of securing universal telecommunications access for persons with disabilities, and third, consumers with disabilities do not have the resources to effectively file complaints for all inaccessible products and services.

**A. Congress Intended for the FCC to Promulgate Rules to Implement Section 255**

The Commission already has asserted its authority to implement and enforce Section 255 under Section 255 itself, as well as under Sections 4(i), 201, and 303(b) and (r) of the Communications Act. As the Commission notes, these sections provide more than ample authority for the Commission to promulgate rules on how to comply with the equipment and service accessibility mandates of Section 255. NOI ¶¶7, 28. But beyond the authority provided to the Commission by these sections, we submit that the promulgation of access rules and regulations by the FCC was, in fact, Congress's intent when it passed the Telecommunications Act of 1996. This is because at the time that the House and Senate telecommunications bills went to the Conference Committee, both contained a mandate for such regulations. Specifically, Section 308(a) of S. 652,<sup>1</sup> passed by the Senate on June 15, 1995, would have required (1) the Architectural and Transportation Compliance Board (ATBCB or Access Board) to develop guidelines on access to telecommunications equipment and customer premises equipment, and (2)

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<sup>1</sup> Section 308 would have added a new Section 262 to the Communications Act.

the Commission to adopt regulations that would have been consistent with such guidelines.

Similarly, the final version of the House bill, H.R. 1555, required that within one year after the date of its enactment, “the Commission shall prescribe such regulations as are necessary to ensure that, if readily achievable, advances in network services deployed by common carriers, and telecommunications equipment and customer premises equipment manufactured for use in conjunction with network services, shall be accessible and usable by individuals with disabilities.”

H.R. 1555 §249(c). In fact, the only difference between the two bills as they went into Conference was that the Senate bill required the input of the Access Board, while the House bill simply directed the FCC to bear the full responsibility of preparing accessibility regulations.<sup>2</sup> It is apparent, then, that the failure of the final bill to contain an FCC mandate for regulations, was, at best, an oversight; indeed this has been confirmed in telephone conversations with members of the Congressional committees who had taken primary responsibility for the accessibility requirements.

Consistent with the above construction of the events which transpired in the final days of the passage of the Telecommunications Act, are statements in the Conference Report itself. That Report makes reference to the fact that the requirement for FCC rules had been relocated elsewhere in the legislation (presumably during the Conference), rather than deleted entirely. Specifically, the Report states: “The Senate has elsewhere assigned responsibility for promulgating regulations for this new section to the Commission,” and notes that Section 249(c) of the House Bill “directs the Commission within one year to establish regulations designed to make network capabilities and services accessible to individuals with disabilities.” Conf. Rep. No.

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<sup>2</sup> Although the NOI mentions the requirement to develop rules in the Senate bill, NOI ¶29 n. 26, it omits the fact that this requirement had been contained in the House bill as well.

104-258 at 173 (104th Cong. 2d. Sess.) (Feb. 1996). The Report then goes on to note the changes/additions made to the House and Senate versions in the final Conference draft, but nowhere states that the House and Senate's requirement for FCC regulations was to be eliminated in the final version of the Telecommunications Act.

That Congress anticipated that the FCC would issue regulations is also reflected by its reference to such rules in its interconnection requirements contained in Section 251(a)(2). That section prohibits telecommunications carriers from installing network features, functions, or capabilities that do not comply with the guidelines and standards established under sections 255 and 256. 47 U.S.C. §251(a)(2). Although the Act does direct the Access Board to issue guidelines on equipment, an interpretation which would not require the FCC (or any other federal agency) to issue rules on telecommunications services would leave a gaping hole in the enforcement of the interconnection provisions contained in Section 251. Indeed, even the FCC recognized the need to promulgate service rules when, in its interconnection proceeding, it declined to adopt specific requirements to implement Section 251's accessibility requirement and explained "[w]e intend to issue a further notice of proposed rulemaking seeking comment on what accessibility and compatibility requirements apply to telecommunications carriers who install network features, functions and capabilities." Implementation of the Local Competition Provisions in the Telecommunications Act of 1996, CC Dkt. No. 96-98, Interconnection between Local Exchange Carriers and Commercial Mobile Radio Service Providers, CC Dkt. 95-185, First Report and Order ¶1998, FCC 96-235 (rel. August 8, 1996) (emphasis added).<sup>3</sup>

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<sup>3</sup> Commenters in the interconnection proceeding alerted the Commission of the need to ensure that certain network features would be accessible to individuals with disabilities, including access to message interruption, directory assistance, and operator service features by users of TTYs.

Similarly, in yet another FCC proceeding which is designed to achieve compatibility between enhanced 911 services and wireless communications, consumers requested the Commission to adopt certain actions that would improve access by TTY users to 911 emergency systems. Again, the Commission declined to address these issues, referring the commenters to its upcoming proceeding on the access provisions of the Telecommunications Act: “[W]e expect to initiate in the near future a proceeding to implement the provisions of Section 255 and related provisions of the Communications Act, which will provide further guidance and direction regarding accessibility standards and requirements.” Revision of the Commission’s Rules To Ensure Compatibility with Enhanced 911 Emergency Calling Systems, CC Dkt. No. 94-102, Report and Order and Further Notice of Proposed Rulemaking ¶53, RM-8143 (rel. July 26, 1996). These prior Commission actions, when considered with Congress’ overriding intent to have standards and guidelines developed with respect to both telecommunications equipment (including CPE) and services, point to a legal mandate for the FCC to draft regulations implementing Section 255’s access provisions.

**B. Principles of Universal Design Require Clear Guidance on Accessibility from the FCC**

In addition to having a legal mandate to promulgate access regulations, the FCC should initiate a rulemaking because, as a practical matter, rules are essential to achieving the type of telecommunications access for individuals with disabilities which was contemplated by Congress in Section 255. Specifically, the promulgation of FCC regulations is critical to ensuring that

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The Commission responded to the comments by explaining that “[s]pecific accessibility requirements such as those proposed . . . will need to be developed in proceedings to implement section 255, and therefore, we will not set forth any required “features, functions, or capabilities” in this proceeding.” First Report and Order ¶998 n. 2351 (emphasis added).

telecommunications manufacturers and service providers fully understand their obligations to provide access throughout the design, development, and fabrication phases of their equipment and services. The goal in such a process is to ultimately achieve universal design, i.e., the design of products and services which are accessible “right out of the box” to the largest range of individuals possible, including individuals with disabilities. In order for companies to incorporate the concept of universal design into their practices, it is critical for the FCC to issue regulations that require such companies to consider and meet access needs at the earliest stages of product and service concept, design, and development. Without clear guidance from the FCC, telecommunications companies will undoubtedly continue their historic trend of intentionally or unintentionally ignoring access needs at these early critical stages.<sup>4</sup>

Time and again we have been witness to the consequences that have resulted from ignoring access needs in the design and development of telecommunications products and services. Often the failure to consider these needs has resulted in the complete inability to “fix” a product or service which is not designed with access in mind. For example, TTY users of relay services cannot use pay telephones to make long distance calls with coins because there is simply no technically feasible means of handling such calls; unlike voice users who have a coin option, TTY users must rely on calling cards or debit cards to complete those calls. Additionally, we have seen how expensive and burdensome the retrofitting of products and services can become when access needs are not considered before the product is manufactured or the service is

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<sup>4</sup> Uniform access standards are also needed to ensure that compliance with Section 255 is consistent within the telecommunications industry. Without such standards it is more likely than not that certain companies will put forth considerable efforts to comply with the access mandates, while others will simply ignore their legal responsibilities. FCC rules are also likely to encourage joint efforts across the telecommunications industry to locate access solutions.

deployed. One only has to look at the hundreds of millions of dollars required to operate nationwide relay services - required for the provision of telecommunications services which are functionally equivalent to direct telephone services - as an example of a very expensive retrofit to an inaccessible product and service. Similarly, the cost of inaccessible design has been illustrated by the lengthy and complicated Commission proceedings on hearing aid compatibility. Prior to the 1980s, the vast majority of telephones in the United States were hearing aid compatible. An influx of imported and cheaper telephones on the market reversed this trend, and as a consequence, the early 1980s witnessed the installation of non-compatible telephones throughout the United States. In 1982, Congress attempted to limit this trend, with the passage of the Telecommunications Act of 1982. Pub. L. 97-410, 47 U.S.C. §610. But because this legislation did not prohibit the manufacture of telephones which were not hearing aid-compatible, individuals with hearing aids continued to have significant difficulty locating compatible telephones. As a consequence, endless resources on this issue have been exhausted since the early 1980s, both at the Commission (through rulemaking proceedings, petitions for reconsideration, and costly negotiated rulemaking processes) and in Congress (through legislative efforts that culminated in the Hearing Aid Compatibility Act), efforts that have tried to fix a product design that could have easily incorporated access from the start. A similar situation is arising with respect to the accessibility of wireless communications devices. While efforts now are being made by both consumers and industry to resolve access problems with respect to these existing devices and emerging technologies, the deployment of these telecommunication devices without consideration of access needs at the design stage has already proven and will continue to prove costly and burdensome for consumers and industry alike.

Issuance of regulations by the FCC are essential if telecommunications manufacturers and providers are to have clear guidance as to how and what they are expected to do to achieve accessibility. Without such guidance, products and services will, more than likely, continue to be inaccessible, leaving consumers with no other recourse but to repeatedly file complaints with the Commission. Telecommunications companies, knowing the high costs of retrofitting their products and services, will then be in a position to argue that it is not readily achievable for them to incur expensive retrofitting costs. The consequence will be that individuals with disabilities will continue to be denied access to telecommunications equipment and services - surely not the result that was intended by Congress when it enacted Section 255.

**C. Reliance Upon Consumer Complaints will be Ineffective**

The FCC proposes, as a possible means of enforcing Section 255, resolution of consumer complaints on a case by case basis. NOI ¶29. Reliance upon consumer complaints as the primary means of enforcing the accessibility mandates of the Telecommunications Act would be ineffective. Historically, consumers with communications disabilities, for a variety of reasons, have rarely used the FCC's complaint mechanisms to enforce their rights. For example, the Common Carrier Bureau has received only a handful of complaints on telecommunications relay services, notwithstanding the fact that these services have been in place for three and a half years and there are numerous concerns about their implementation. Among other things, lack of education and resources, as well as communications barriers, have contributed to the inability of consumers to initiate such telecommunications complaints. The Commission has been charged with the enforcement of Section 255; it should do so through the promulgation of rules and



should not shift this responsibility to the consumers for whom the protections of this section were intended.

### **III. The FCC Should Adopt and Periodically Review the Access Board's Guidelines on Equipment**

The Telecommunications Act requires the Access Board to develop guidelines on access to telecommunications equipment and customer premises equipment, in conjunction with the FCC. In its NOI, the FCC has requested input on how best it can work with the Access Board to develop equipment and CPE guidelines. NOI ¶¶4, 35.

The Commission has indicated that the instant proceeding was initiated in order to facilitate the timely fulfillment of the Access Board's responsibilities under Section 255. NOI ¶4. Accordingly, it is appropriate to provide the Access Board with the record from this proceeding. As the agency charged with enforcing the equipment provisions, the Commission should also adopt the Board's guidelines, and periodically review those guidelines to determine whether they need revisions or strengthening. Finally, the Commission, in adopting its own rules with respect to telecommunications services, should endeavor to be consistent with the Access Board's equipment guidelines. Because telecommunications services and equipment frequently overlap, care should be taken to ensure that process guidelines covering accessibility assessments by manufacturers are consistent with FCC rules which dictate processes for service providers.

### **IV. The FCC Should Promulgate Rules Requiring Telecommunications Providers and Manufacturers to Follow Certain Processes During Design and Development Stages**

The Commission has requested comment on whether it should specify certain processes that should be followed by service providers who must provide access for individuals with disabilities. NOI ¶32. The NAD strongly urges the FCC to require telecommunications

companies to follow certain processes during the design, development, and deployment of a given telecommunications service. This would be consistent with process guidelines which are likely to be adopted by the Access Board for the development of accessible telecommunications equipment and CPE, and would enable both consumers and industry to have a clearly defined measure of whether a company has complied with Section 255. Certainly, the result of such process guidelines would be both increased compliance and fewer complaints.<sup>5</sup>

Process guidelines should require companies providing telecommunications services to consider access issues at all phases of the design, development, and marketing of a service. Toward this end, requirements should be in place for consultation with individuals with disabilities who are knowledgeable and articulate with respect to accessibility issues and emerging technologies as early as possible in the development and design of a service concept, and at each subsequent critical step. These individuals should be actively involved in both the assessment of disability needs as well as the solutions for providing such access. When conducting market research for a service, companies should be required to include individuals with disabilities in that research, to ensure that functional limitations are considered in the design of the service. Additionally, companies should be required to test disability access solutions with actual individuals with disabilities, where the technology to do so is available. Telecommunications providers should have an ongoing obligation to actively search for universal design and

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<sup>5</sup> It is assumed for the purposes of this discussion that the Access Board will develop the process guidelines that are applicable to telecommunications manufacturers, and that the FCC will codify those guidelines into regulations. Thus, for the most part, this discussion only focuses on proposed rules for service providers; nevertheless, the NAD urges the implementation of process requirements for both services and products.

accessibility solutions; where such solutions are readily achievable, they should be under a continuing obligation to incorporate such features into their services.

Companies should also be under an obligation to ensure that marketing and general information about the accessibility of a particular service is readily available to individuals with disabilities. Such information should be included in all communications with end users, such as advertisements, and brochures; additionally, such information should be available in alternate formats, i.e. captioned video, Internet/e-mail, diskette, and large print. Where it has been determined that a particular telecommunications service cannot be made directly accessible, all communications with consumers should contain information about the compatible interface that will be needed (e.g., the adaptive technology) to achieve access to that service.

Companies should also be under a continuing obligation to ensure that their employees, third party distributors, and contractors are aware of and in compliance with the accessibility requirements of Section 255. This would necessarily include training of engineers, product managers, and customer representatives on the accessible features of their services and the commonly used adaptive technologies which may be needed for those services. Additionally, customer and technical support, ordering, installation, and billing for a particular service must be available in accessible formats. For example, TTY numbers should be provided for all telephone communications with customers, and television, Web sites, or Internet advertisements promoting a particular service should include closed or open captioning.

Telecommunications providers and manufacturers should be required to fully document their efforts to achieve the above access solutions throughout the design and development of their services and equipment. Such documentation should include, but not be limited to, reports of

consultations with consumers with disabilities, measures taken to fully research and locate accessibility solutions, employee training on access issues, and market research conducted on consumers with disabilities. Any and all such documentation prepared to comply with Section 255 should be available to the FCC or consumers upon request. Where a company determines that solutions for access are not readily achievable, it should be required to demonstrate, through comprehensive documentation, that it has fully researched and explored accessibility solutions and should be able to explain or demonstrate why such solutions are not readily achievable. The company should then be required to develop a plan indicating the measures it intends to take to achieve access in the future as well as measures that will be adopted to ensure that its service or equipment is compatible with existing peripheral devices and specialized customer premises equipment (SCPE).<sup>6</sup>

**V. Telecommunications Products and Services Remain Largely Inaccessible to Individuals with Disabilities**

The Commission has requested information on the extent to which accessible telecommunications services, equipment, and CPE are currently available. NOI ¶23. Unfortunately, to date, a significant percentage of telecommunications products and services remain inaccessible to individuals who are deaf and hard of hearing because these services provide only aural or verbal interfaces and lack access to information through a visual format. The following are some of the telecommunications products and services that continue to be inaccessible:

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<sup>6</sup> Although the NAD does not oppose permitting trade associations to assist in the type of disability impact analysis discussed in this section, it is essential that neither service providers nor equipment manufacturers be relieved of liability with respect to Section 255's mandates, by virtue of the fact that they have contracted with a trade association to conduct a disability assessment.

#### A. Personal Communications Devices and Services

Digital personal communications devices are not compatible with TTYs. Because of their design and shape, these devices are not designed to fit TTY acoustic cups and typically do not have built-in jack attachments or adapters to directly connect with TTYs or other assistive devices. In addition, because of problems with some digital vocoders, most digital telephones presently have no means of ensuring that the TTY's Baudot signals can be transmitted over wireless services.

Most digital telephones also are not accessible to individuals who use hearing aids. Not only are the telephones not compatible with the telecoil feature used by hearing aid users, but the emissions from these telephones frequently cause considerable interference which is both annoying and disrupts usability for hearing aid users.

Additionally, although analog cellular telephones are somewhat more accessible, there are fewer such telephones now available, and a number of these telephones as well do not provide inductive coupling for direct linkage to hearing aids or the necessary jacks for connection to assistive devices. Finally, most wireless telephones - both analog and digital - typically do not provide vibratory alerts that are necessary to notify persons with hearing disabilities that the telephone is ringing<sup>7</sup>.

#### B. Voice Mail

TTY users are presently unable to effectively use most voice mail systems. Typically, these systems do not provide auditory options in a visual format. Although there is research being

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<sup>7</sup> Visual alerts are often inadequate as these telephones are typically placed in a pocket where the user cannot see the visual cue.

completed to enable the use of “TTY mail,” it is not clear that this will permit both TTY calls and voice calls to take place over the same line for households that have both deaf and hearing people on the premises.

Voice mail systems also pose significant problems for individuals who are hard of hearing because the messages are transmitted in a rapid manner, and do not offer ample opportunity for repetition by hearing aid users. The rapid transmission also poses a significant problem for relay users.

### **C. Public Pay Telephones**

A significant number of public pay phones remain inaccessible to individuals who are deaf or hard of hearing either because they do not have keyboard /text access, lack nearby electrical outlets for portable TTYs, or lack hearing aid compatibility or amplification, despite the fact that all of these technological solutions are readily available. Certain public pay telephones now have keyboards with TTY capabilities, but more often than not, TTY users have found that they are unable to select their carrier of choice, as well as their preferred method of payment, when using these telephones. Although some of these telephones may accept various telephone credit card numbers when they are used for voice calls, they do not provide the same degree of access with respect to their keyboard/text equipment. The consequence is that access to these telephones is virtually blocked for many TTY users.

Finally, there have been reports that a number of pay phones will not accept 800 numbers. This poses a critical problem for TTY users who wish to access relay services (and TTY operator assistance services), as the majority of these services are only accessible via 800 numbers.

#### **D. Video Programming**

Multimedia information which is carried over telephone lines or the Internet, and which contains interactive and other messages initiated from video dialtone services or CD-ROM programs contain audio-based information which lack equivalent text-based information (i.e., through open or closed captioning). In addition, where access to such services depends on voice menus, they remain inaccessible to individuals with hearing and speech disabilities.

#### **E. Telecommunications Relay Services - Limitations**

Although some long distance carriers offer discounts for relay users, typically, the cost of completing a long distance relay call for the individual placing that call still far exceeds the cost of a direct voice-to-voice telephone call. A telecommunications system which is truly nondiscriminatory would require uniform discounts to reflect the increased time needed to complete relay calls.

Automated voice/tone response systems are not accessible to TTY users or relay users. These systems typically employ auditory prompts requiring verbal only selections, and therefore are inaccessible to individuals who must respond in text. In addition, interactive prompt systems usually contain recordings which are far too fast and detailed for relay service users to catch within a single call. Because communications assistants (CAs) typically cannot indicate the caller's choices fast enough, the CA is frequently required to either end the call or repeatedly redial the automated number and renavigate each layer of options, at considerable expense in time and money for the TTY caller. Thus, although menu navigating systems are increasingly becoming a tool for businesses to reduce their telephone costs, these systems have proven to be an insurmountable barrier for TTY users.

Another limitation of relay services is that presently, most TRS providers refuse to complete calls to information service providers such as those available via 900 numbers, although it is now technically feasible to complete such calls.

Finally, because there is no single national relay number, all too often it is difficult for individuals to ascertain local relay numbers when they travel. First, voice users have difficulty getting these numbers because telephone service operators are still not fully acquainted with the existence and functions of relay systems. Second, even were local 411 operators to have this information, TTY users are in a Catch 22: they cannot access operator information without the relay because 411 services are not TTY accessible. Finally, there is considerable inconsistency in telephone directory listings of relay numbers for both hearing and deaf relay users.

#### **F. Other Telecommunications Equipment, CPE, and Services**

There are numerous other types of telecommunications equipment and services which are partially or completely inaccessible to individuals who are deaf or hard of hearing. These are:

- Call waiting, call forwarding, and call interrupting services which are not accessible to TTYs;
- Digital PBX systems, including ISDN systems, which are incompatible with direct connect TTYs and flashing signal systems/equipment;
- Alpha pagers which do not permit TTY users to type a message directly to other TTY users of the paging service;
- Fax machines which employ only auditory tones to signal the input and output of documents;
- Computer modems which are not compatible with Baudot or enhanced speed TTY signals;
- Alarm systems which are connected to telecommunications services that do not provide TTY access;
- Speakers and headphones which are positioned toward or near noise sources, interfering with effective hearing;



- Telephonic devices which lack adjustable volume controls;
- Caller ID which does not pick up TTY tones, identify whether phone numbers are TTY or voice based, or identify the existence of relay calls; and
- Special telephone services, such as weather reports, school closings, stock quotations, sports information, news, and entertainment schedules which are not accessible to TTY callers.

The extensive list of inaccessible telecommunications products and services listed above illustrates the overwhelming need for the FCC to issue regulations which are both service and product-specific, as well as regulations setting forth disability impact processes, to implement Section 255. See NOI ¶34.

This list further demonstrates the fact that for decades, individuals with disabilities have been forced to pay for services that they cannot use. This is because frequently, telephone services have been bundled, containing some services which are accessible and others which lack universal design. The consequence is that consumers with disabilities who want access to some of these services are forced to subsidize the costs of other “bundled” services which they cannot use. This inequity needs to be corrected in the Commission’s rules.

Although technology is changing at a swift pace, where known solutions to inaccessible products and services exist, these solutions should be put into place, with the understanding that the FCC will conduct periodic reviews of its rules to ensure that they do not discourage or impede the development of future technologies. In order to achieve communications access, the FCC should require service providers and manufacturers to ensure that all forms of expression, transmission, and reception of electronic telecommunications are accessible to persons with disabilities. These obligations should be ongoing, and should require providers and manufacturers